IS 7677 (1986): Exolevers, Apical, Dental [MHD 8: Dentistry]

BLANK PAGE

Indian Standard

SPECIFICATION FOR EXOLEVERS, APICAL, DENTAL

(First Revision)

Dental Instruments Sectional Committee, CPDC 21; Dental Extraction Forceps Subcommittee, CPDC 21 : 2 [Ref : Doc : CPDC 21 (1863)]

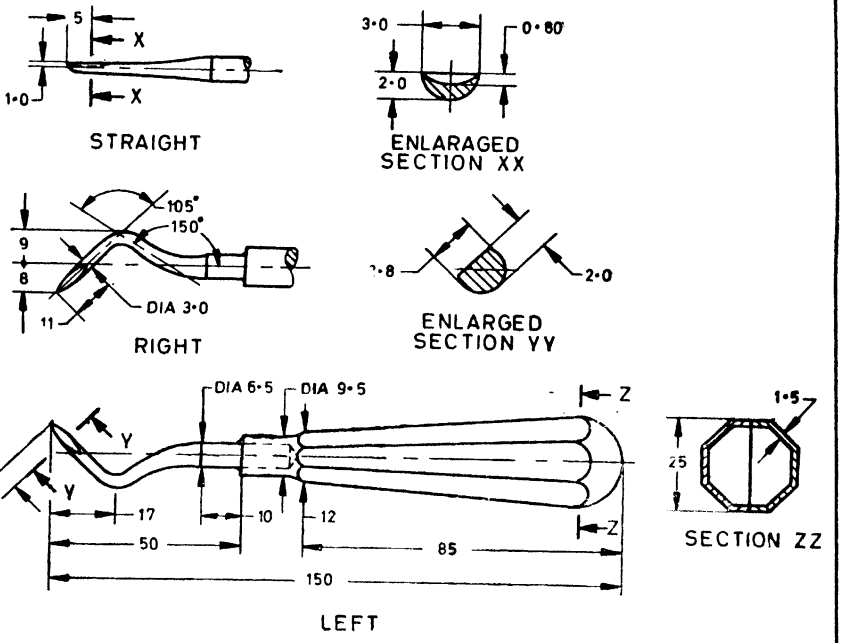
1. Scope — This standard specifies materials, dimensions and other requirements for straight, right and left apical exolevers used in dentistry.

2. Materials

2.1 *Shank and Blade* — Stainless steel conforming to Designation 30Cr13 of IS : 6603-1972 'Specification for stainless steel bars and flats'.

2.2 *Handle* — Stainless steel sheet conforming to Designation 04Cr18Ni10 or 07Cr18Ni9 of IS : 6911-1972 'Specification for stainless steel plate, sheet and strip'.

3. Shapes and Dimensions — As shown in Fig. 1.



All dimensions in millimetres.

FIG. 1 EXOLEVERS, APICAL, DENTAL — STRAIGHT, RIGHT AND LEFT

3.1 Tolerances on various dimensions shall be as given below:

a) ± 0·05 mm on dimensions up to 2·0 mm,

b) ± 0·1 mm on dimensions above 2·0 mm and up to 5·0 mm,

c) ± 0·2 mm on dimensions above 5·0 mm and up to 20·0 mm,

Adopted 25 November 1986

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

AMENDMENT NO. 1 DECEMBER 2007
TO
IS 7677 : 1986 SPECIFICATION FOR EXOLEVERS, APICAL, DENTAL

(First Revision)

(*Page* 1, *title*) — Substitute 'ELEVATORS' *for* 'EXOLEVERS'.

(*Page* 1, *clause* **1**) — Substitute '**elevators**' *for* 'exolevers'.

(*Page* 1, *Fig.* 1, *Captions*) — Substitute 'ELEVATORS' *for* 'EXOLEVERS'.

(*Page* 2, *clause* **9.1**) — Substitute '**elevators**' *for* 'exolevers'.

(*Page* 3, *clause* **10**) — Substitute '**elevators**' *for* 'exolevers'.

(*Page* 3, *Appendix* A) — Substitute 'ELEVATORS' *for* 'EXOLEVERS'.

(MHR 8)

Reprography Unit, BIS, New Delhi, India

d) ± 0·5 mm on dimensions above 20·0 mm and up to 50·0 mm,

e) ± 1·0 mm on dimensions above 50·0 mm and up to 100·0 mm, and

f) ± 2·0 mm on dimensions above 100·0 mm.

3.2 Tolerance on angular dimensions shall be ± 2°.

4. Mass — 55 ± 5 g.

5. Heat Treatment — The shank and the blade shall be uniformly hardened and tempered to give a hardness of 400 to 480 HV, when tested in accordance with IS : 1501 (Part 1)-1984 'Method for Vickers hardness test for metallic materials: Part 1 HV 5 to HV 100 (*second revision*)'.

6. Workmanship

6.1 All edges shall be rounded except the working edge.

6.2 The shank shall be inserted into the handle, and then brazed or soldered. The brazing or soldering shall be neat and sound.

7. Surface Condition

7.1 *General* — All surfaces shall be free from pores, crevices and grinding marks. The instruments shall be supplied free from residual scale, acid, grease and grinding and polishing materials. Compliance with these requirements shall be checked by inspection using normal vision (corrected, if necessary).

7.2 *Surface Finish* — The surface finish shall be one of, or a combination of, the following:

a) Mirror polished;

b) Reflection-reducing, for example, satin finish, matt black finish; and

c) An applied surface coating, for example, for insulation purposes.

Note — The satin finish should be effected by an appropirate procedure, such as grinding, brushing, electropolishing and, in addition, satin finishing (glass beading or satin brushing). The finish should be uniform and smooth and it should reduce glare.

Instruments of mirror finish should be adequately ground to removed all surface imperfections and polished to remove grinding marks, resulting in mirror finish. The mirror finish should be affected by an appropriate precedure, such as, polishing, brushing, electropolishing, and mirror buffing.

8. Tests

8.1 *Proof Load Test* — The handle of the exolever shall be fixed in a clamp in such a manner that the juction of the shank and the handle protrudes out of the grip in the horizontal plane and the concave surface of the blade faces upwards. A load of 250 N (25 kgf approximately) shall then be suspended from about the middle of the blade for 2 minutes. The exolever shall show no sign of damage after the completion of the test.

8.2 *Corrosion Resistance Test* — The instruments shall be tested in accordance with IS : 7531-1975 'Method for boiling and autoclaving test for corrosion resistance of stainless steel surgical instruments'. They shall show no sign of corrosion after the test.

8.3 *Leakage Test for Handle* — The handle including the joint portion shall be immersed in boiling paraffin wax for 2 minutes. There shall not be any air bubbles visible on the surface of the liquid.

9. Marking and Packing

9.1 The exolevers shall be legibly and indelibly marked with the manufacturer's name, initials or recognized trade-mark; the words 'stainless steel' or letter 'ss'; and the country of manufacture.

9.2 The working edge of the instruments shall be preserved in plastic peel or any suitable PVC airdrying type dip-coating. Each instrument shall be put in a polyethylene bag or wrapped in wax paper. The instruments shall then be packed in cartons in accordance with the current trade practice.

9.2.1 Alternatively, the instruments may be packed as agreed to between the purchaser and the supplier.

9.3 The packages shall bear the name of the instrument; the word 'straight', 'right' or 'left', as relevant; the manufacturer's name, initials or recognized trade-mark; the words 'stainless steel'; and the country of manufacture.

9.4 *Certification Marking* — Details available with the Bureau of Indian Standards.

10. Sampling — Sampling procedure and acceptance criteria for the exolevers shall be as agreed to between the purchaser and the supplier. A recommended scheme for the same is given in Appendix A.

APPENDIX A

(*Clause* 10)

SAMPLING SCHEME AND CRITERIA FOR CONFORMITY FOR EXOLEVERS, APICAL, DENTAL

A-1. Lot — In any consignment, all the instruments of the same shape, produced from the identical materials under similar conditions and having the same surface finish shall constitute a lot.

A-2. Scale of Sampling — The number of instruments to be selected from each lot shall depend upon the size of the lot and shall be in accordance with col 1 and 2 of Table 1.

TABLE 1 SCALE OF SAMPLING

Lot Size	Sample Size	Sub-sample Size
(1)	(2)	(3)
Up to 15	2	1
16 to 50	3	1
51 to 150	5	2
151 and above	8	3

A-2.1 These instruments shall be selected from the lot at random and in order to ensure randomness of selection, procedures given in IS : 4905-1968 'Methods for random sampling' may be followed.

A-3. Number of Tests and Criteria for Conformity

A-3.1 All the instruments selected according to col 1 and 2 of Table 1 shall be examined for shape and dimensions, workmanship, and surface condition (visual) and tested for mass. An instrument in the sample failing to meet any of these requirements shall be considered as defective. The lot shall be considered as conforming to these requirements if no defective is found in the sample.

A-3.2 The lot having been found satisfactory according to **A-3.1** shall be further tested for other requirements. For this purpose, a sub-sample of size given in col 3 of Table 1 shall be taken. These instruments in the sub-sample may be selected from those already examined according to **A-3.1**. Each instrument in the sub-sample shall be subjected to hardness, proof load, corrosion resistance and leakage tests. The lot shall be declared as conforming to the requirements of the specification if none of the instruments in the sub-sample fails in any of these tests.

EXPLANATORY NOTE

This standard was first issued in 1975. In this revision, requirements for material have been modified, tolerances on various dimensions have been specified, a recommended scheme of sampling has been added and the clauses on surface condition have been modified besides incorporating certain other modifications.

Printed at Arcee Press, New Delhi, India